IN THE CLAIMS

Kindly amend the claims as follows:

1. (Previously Presented) Hydraulic device for injection of bone cement in percutaneous vertebroplasty, that comprise four main parts, namely: injecting syringe, pressure exerting body, hydraulic transmission tube, an manual impulsion and fluid control syringe; the injection syringe is a commercially available disposable 3 ml hypodermic syringe placed next to the patient; the hydraulic tube for pressure transmission, of 1.0 m to 1.5 m length, placed between the injection syringe and the pressure exerting body; the manual impulsion syringe placed after the hydraulic tube and near the operator, characterized by the pressure exerting body consist of hollow cylindrical body in the form of inverted syringe of larger diameter with an adapted ending like an open bolster with the largest external diameter and two diametrical opposed cuts like oval entry, also in the other end one tip of reduced diameter; an peripheral groove in the internal wall of such bolster, couples tightly the wings of injection syringe in a revolved way; such pressure exerting body has a movable piston on axial direction to define two chambers, namely, internal and external.

2. (Previously Presented) Hydraulic device of injection of bone cement according to the claim 1, characterized by the cylindrical hollow of pressure exerting body (1), in form of an inverted positioned syringe that renders mechanical advantage to the force exercised in the manual syringe, it has a larger diameter and consists of a joining bolster with internal peripheral groove where are coupled the wings of injecting 3 ml syringe; a body cylindrical lengthened hole of 10 ml of volume that contains a first free camera where the plunger (c) of the injection syringe lodge inside the cylinder until coupled with the moving internal piston (4), and a second internal camera (5) occupied by a hydraulic fluid, this cameras are separated by such piston (4) surrounded by a rubber cap that seals the internal wall of the body of pressure and avoids leakage of the hydraulic fluid; a final end tip of reduced diameter that is connected in a hermetic way to the hydraulic tube (7).

3. (Previously Presented) Hydraulic device of injection of bone cement according to the claim 2, characterized by the bolster is adapted to receive in a first predetermined position of an oval entry (70) the wings of the injection syringe, and in second position by a 90° turn in a peripheral groove (90), placed in a tight way.

4. (Previously Presented) Hydraulic device of injection of bone cement according to the claim 1, characterized by the manual syringe (8) is a lengthened syringe that has a smaller diameter than the pressure exerting body in a 2/1, 3/1, 4/1 ratio, it is connected in continuation, far from the application point by a hydraulic tube.

5. (Previously Presented) A method of operating the device for injection of bone cement that comprises:

to insert a bone biopsy needle in the place where the bone cement is to be delivered;

to connect the injecting syringe, loaded with the cement, in continuation of the needle;

to couple in a revolved way, the injecting syringe in the internal peripheral groove of the bolster of the pressure exerting body;

to exert pressure on the plunger of the injecting syringe by means of the force exerted in the plunger of the manual syringe placed in the other end of the hydraulic tube, this way, the content of the injecting syringe is injected in the patient's vertebral body;

to retract the plunger of the manual syringe to withdraw the internal piston of the body of pressure in position to receive a new loaded cartridge of bone cement;

to uncouple the injecting syringe from the bolster of the body of pressure;

to disconnect the empty syringe from the needle placed in the patient's body;

to couple the new cartridge of bone cement (injecting syringe) in the needle and bolster of the body of pressure, and repeat the previous steps to place another new cartridge of bone cement, until completing the filling of the vertebral body.

6. (New) A device for delivering a viscous material into a site in a patient, comprising:

an actuator including an actuator vessel;

a delivery tube, having a first end, a second end and an inner bore, wherein the first end is coupled to the actuator; and,

a container having a connection port for connecting to the second end of the tube and an exit port.

7. (New) The device of claim 6, wherein the actuator comprises a linear actuator.

8. (New) The device of claim 6, wherein the actuator comprises a hydraulic pump.

9. (New) The device of claim 6, wherein the actuator has a visualization window for viewing the contents of the vessel.

10. (New) The device of claim 9, wherein the visualization window has means for measuring the amount of viscous material being delivered.

11. (New) The device of claim 10, wherein the means for measuring are graduation lines marked on the outside of the actuator.

12. (New) The device of claim 6, wherein the delivery tube is flexible and noncompliant.

13. (New) The device of claim 6, wherein the container is adapted to hold at least 3 cc of viscous material.

14. (New) The device of claim 6, wherein the container further comprises a visualization window for viewing contents of the container.

15. (New) The device of claim 14, wherein the visualization window has means for measuring the amount of viscous material being delivered.

16. (New) The device of claim 15, wherein the means for measuring are graduation lines marked on the outside of the container.

17. (New) The device of claim 6, wherein the container is made from a noncompliant material.

18. (New) The device of claim 6, further comprising a substantially incompressible fluid located within the vessel.

19. (New) The device of claim 18, wherein the amount of fluid contained in the vessel is greater than the amount of viscous material to be delivered.

20. (New) The device of claim 6, further comprising a cannula for delivery of the viscous material to the site in the patient.

21. (New) A device for delivering a viscous material comprising: a delivery tube having a first end portion, a second end portion, and an inner bore therebetween, the first end portion adapted to contain an incompressible fluid and the second end portion adapted to contain a viscous material.

22. (New) The device of claim 21 further comprising: an actuator for pressurizing the incompressible fluid.

23. (New) The device of claim 22, wherein the actuator comprises a hydraulic pump.

24. (New) The device of claim 22, wherein the actuator has a visualization window for viewing the fluid.

25. (New) The device of claim 24, wherein the visualization window has means for measuring the amount of viscous material being delivered.

26. (New) The device of claim 25, wherein the means for measuring are gradient lines marked on the outside of the actuator.

27. (New) The device of claim 21, wherein the delivery tube is flexible and noncompliant.

28. (New) The device of claim 21, further comprising a container connected to the second end portion of the delivery tube.

29. (New) The device of claim 28, wherein the container is adapted to hold between 3 and 10 cc of viscous material.

30. (New) The device of claim 28, wherein the container further comprises a visualization window for viewing contents of the container.

31. (New) The device of claim 30, wherein the visualization window has means for measuring the amount of viscous material being delivered.

32. (New) The device of claim 31, wherein the means for measuring are gradient lines marked on the outside of the container.

33. (New) The device of claim 21, further comprising a substantially incompressible fluid located within the reservoir.

34. (New) The device of claim 33, wherein the amount of fluid contained in the delivery tube is greater than the amount of viscous material to be delivered.

35. (New) The device of claim 21, further comprising a cannula for delivery of the viscous material to the site in the patient.

36. (New) The device of claim 21 further comprising: a separator sized to move within the inner bore of the tube while separating the viscous material from the incompressible fluid.

37. (New) A method of delivering a viscous material under fluoroscopy to a site in a patient comprising the steps of:

a) providing a delivery tube containing an incompressible fluid and a viscous material, wherein the viscous material is located within the fluoroscopy field; and

b) pressurizing the incompressible fluid outside the fluoroscopy field to exert pressure on the viscous material.

38. (New) The method of claim 37 wherein the delivery tube is flexible and noncompliant.

39. (New) The method of claim 37 wherein the step of pressurizing the incompressible fluid, comprises using a linear actuator.

40. (New) The method of claim 37 further comprising the step of: a) determining the amount of

viscous material delivered from a visualization window.

41. (New) A method of delivering a viscous material to a site in a patient comprising the steps of:

a) providing a device having an actuator, a delivery tube filled with an incompressible fluid and a container;

b) filling the container with a viscous material; and

c) activating the actuator to pressurize the fluid to exert a force on the viscous material.

42. (New) A device for delivering a viscous material into a site in a patient, comprising:

a) a delivery tube, having a first end, a second end and an inner bore,

b) an incompressible fluid contained within the inner bore of the delivery tube,

c) a container having a connection port for connecting to the second end of the delivery tube, an inner bore, an exit port,

d) a viscous material contained within the inner bore of the container, and

e) a separator sized to move within the inner bore of the container for separating a viscous material from the incompressible fluid.

43. (New) A device for delivering a viscous material into a site in a patient, comprising:

a) a delivery tube, having a first end, a second end and an inner bore,

b) a first fluid contained within the inner bore of the delivery tube, and

c) a container having a connection port for connecting to the second end of the delivery tube, an inner bore, an exit port, and

d) a second fluid contained within the inner bore of the container.

44. (New) A device for delivering a viscous material into a site in a patient, comprising:

a) a container having a connection port for connecting to the second end of the delivery tube, an inner bore, an exit port adapted for connection to the patient,

b) a separator housed within the inner bore, thereby defining a distal bore and an proximal bore,

c) a first fluid contained within the proximal bore of the container.

45. (New) The device of claim 44 further comprising:

a) a second fluid contained within the proximal bore of the container.

46. (New) A device for delivering bone cement, comprising:

at least one delivery chamber filled with bone cement; and

a hydraulic mechanism coupled to said delivery chamber and adapted to advance said cement out of said delivery chamber.

47. (New) A device according to claim 46, wherein said hydraulic mechanism utilizes a fluid other than said bone cement.

48. (New) A device according to claim 46, wherein said bone cement is polymethylmethacrylate.

49. (New) A device according to claim 46, wherein said mechanism comprises a flexible tube at least 100 cm long.

50. (New) A device according to claim 46, wherein said hydraulic mechanism provides hydraulic force amplification.

51. (New) A device according to claim 46, wherein said hydraulic mechanism provides force amplification by mechanical advantage.

52. (New) A device according to claim 46, adapted to provide enough force for a kyphoplasty procedure.

53. (New) A method of hydraulic delivery of a viscous material into the body, comprising:

(a) providing a volume with bone cement therein; and

(b) increasing pressure in said volume using a hydraulic mechanism with a working fluid other than said cement.

54. (New) A method according to claim 53, wherein said viscous material comprises bone cement.

55. (New) A method according to claim 54, comprising increasing said pressure using a flexible

conduit.

56. (New) A method according to claim 54, wherein said volume is enclosed by a tube that enters the body.

57. (New) A method according to claim 56, comprising coupling said tube to said mechanism using a rotating connection.

58. (New) A method according to claim 54, comprising delivering said cement as part of a kyphoplasty procedure.

59. (New) A method according to claim 54, comprising cooling said bone cement in a manner sufficient to delay its solidification.

60. (New) A method according to claim 54, comprising replacing a cement chamber during a single medical procedure.

61. (New) A method according to claim 54, comprising delivering 10 cc of bone cement to a bone.

62. (New) A method according to claim 54, comprising not replacing a cement chamber during a single medical procedure.

63. (New) A method according to claim 62, wherein said procedure is a kyphoplasty procedure.

64. (New) A method according to claim 62, wherein said procedure is a vertebroplasty procedure.

65. (New) A device for delivering bone cement, comprising:

(a) a delivery chamber including bone cement; and

(b) a flexibly attached pressure source adapted to increase a pressure in said delivery chamber.

66. (New) A device according to claim 6, wherein said container contains bone cement.

67. (New) A device according to claim 7, wherein said viscous material comprises bone cement.

68. (New) A method according to claim 37, wherein said viscous material comprises bone cement.

69. (New) A method according to claim 41, wherein said viscous material comprises bone cement.

70. (New) A device for delivering viscous material, comprising:

a tube adapted to deliver a viscous material into a vertebra; and

a delivery system adapted to deliver said viscous material to said tube and including a relatively long conduit connecting a power application point and said tube.

71. (New) A device according to claim 70, wherein said conduit is long enough to reach out of an orthopedic x-ray viewing field.

72. (New) A device according to claim 70, wherein said conduit is at least 100 cm long.

73. (New) A device according to claim 70, wherein said delivery system comprises a cement reservoir.

74. (New) A device according to claim 70, wherein said delivery system includes a flexible coupling capable of being bent without adversely affecting delivery of said viscous material.

75. (New) A method of delivering viscous material, comprising:

inserting a tube having an axis into a vertebra; and

attaching a delivery system of viscous material to said tube; and

applying power to advance said viscous material into said vertebra, said power being applied outside an x-ray viewing field being used for viewing said vertebra and said power being applied in a manner which does not trans-axially move said tube.

76. (New) A method according to claim 75, wherein said attaching comprises attaching using a flexible connection between said tube and a point of application of said power.

77. (New) A method of delivering viscous material, comprising:

inserting a tube into a vertebra; and

selecting a force application angle relative to an axis of said tube from a set of arbitrary angles;

attaching a delivery system of viscous material to said tube; and

applying a force to advance said viscous material into said vertebra, said force being applied at said angle.